

In the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application. Changes to the claims are shown with additions underlined and deletions in ~~striketrough text~~.

Claims 1-60 (Canceled)

61. (Currently amended) ~~A rotary table for use with a three-dimensional digitizing system, said three-dimensional digitizing system measuring three-dimensional geometry of an object resting on said rotary table and providing data describing said three-dimensional geometry to a host computer system, the rotary table device, comprising:~~

a support base;

a turntable coupled to ~~said the~~ support base and ~~operative configured~~ to rotate about an axis ~~positioned substantially~~ perpendicularly to a surface of ~~said the~~ turntable, ~~said the~~ turntable ~~receiving on said turntable surface said configured to support an object to be measured, said the~~ turntable and ~~said the~~ object ~~rotating configured to rotate about said the axis one of during making a measurement or and between said making measurements from a plurality of measurements measuring of said a three-dimensional geometry of said the object to allow said measuring of said three-dimensional geometry; and~~

a sensor coupled to ~~said the~~ support base, ~~the sensor configured and operative~~ to measure an angular rotation of ~~said the~~ turntable, ~~wherein said the~~ sensor ~~configured to send provides~~ sensor data ~~indicative associated with the of said angular rotation to said a processor host computer system, the processor configured to determine the three-dimensional geometry of the object based on the measurement and the said host computer system including said angular rotation of said turntable in a determination of said three-dimensional geometry of said object on said rotary table.~~

62. (Currently amended) ~~The rotary table as recited in device of claim 61, wherein said rotary table the turntable further includes interface electronics for providing said configured to provide the sensor data associated with the angular rotation to said host computer system the processor.~~

63. (Currently amended) The ~~rotary table as recited in device of~~ claim 61, wherein ~~a probe of further comprising a probe, the probe being configured~~ apparatus is used to physically trace a surface of said the object to obtain detect three-dimensional coordinates describing said associated with the three-dimensional geometry of the object.

64. (Currently amended) The ~~rotary table as recited in device of~~ claim 63, wherein ~~said the turntable includes defines a receptacle positioned near disposed adjacent a periphery of said the turntable, the receptacle being configured to receive the for receiving said probe in an initialization procedure for locating said associated with calibrating a position of the turntable relative to said the probe apparatus.~~

65. (Currently amended) The ~~rotary table as recited in device of~~ claim 63, wherein ~~said the turntable includes defines a receptacle positioned near disposed adjacent the a center of said the turntable, the receptacle being configured to receive the for receiving said probe in an initialization procedure for locating said associated with calibrating a position of the turntable relative to said the probe apparatus.~~

66. (Currently amended) The ~~rotary table as recited in device of~~ claim 63, wherein ~~said the support base is coupled to a base of said the probe apparatus such that a position and an orientation of said rotary table the turntable is fixed relative to said the probe apparatus.~~

67. (Currently amended) The ~~rotary table as recited in device of~~ claim 63, wherein ~~said the probe of said probe apparatus is a stylus having including a tip for configured to contact contacting said the object.~~

68. (Currently amended) The ~~rotary table as recited in device of~~ claim 64, wherein ~~said the receptacle is configured to receive receives said the probe such that when said the turntable is rotated in said during the initialization procedure, said the probe is configured to rotate rotates with said the turntable, and a plurality of positions and orientations of said the probe are being~~

sampled during ~~said-the~~ rotation to ~~locate said rotary table~~ calibrate the turntable with respect to ~~said-the~~ probe apparatus.

69. (Currently amended) The ~~rotary table as recited in device of claim 63, wherein said-the~~ turntable includes a first receptacle ~~positioned near~~ disposed adjacent a periphery of ~~said-the~~ turntable and a second receptacle ~~positioned near~~ disposed adjacent a center of ~~said-the~~ turntable, ~~said each of the receptacles being configured to receive for receiving said-the~~ probe in an initialization procedure ~~for locating associated with calibrating a position of the said~~ turntable relative to ~~said-the~~ probe apparatus.

70. (Currently amended) The ~~rotary table as recited in device of claim 63, wherein said-the~~ turntable is configured to be manually rotated by a user to allow ~~said tracing of said surface of~~ said object by said probe.

71. (Currently amended) The ~~rotary table as recited in device of claim 61, wherein said-the~~ processor host computer system determines is configured to output data values associated with a three-dimensional model of ~~said-the~~ object from ~~said data describing said associated with the~~ three-dimensional geometry of ~~said-the~~ object.

72. (Currently amended) A ~~digitizing system for determining the three dimensional geometry of an object and providing information describing said three dimensional geometry to a host computer system, the digitizing system, comprising:~~

(a) an apparatus including at least one sensor configured to detecting said information describing said associated with a three-dimensional geometry of an object and configured to providing said-the information to ~~said host computer system~~ a processor; and

(b) a rotary table including:

_____ (i) a base;

(ii) a turntable coupled to ~~said-the~~ base and being configured to rotate rotatable about an axis ~~positioned perpendicularly~~ to a surface of ~~said-the~~ turntable, ~~said-the~~ turntable configured receiving on said surface ~~said-the~~ object, ~~wherein said-the~~ turntable

and ~~said-the~~ object being configured to rotate about said-the axis one of during detecting information or-and between said-detecting-subsequent detections of said-the information describing said-associated with the three-dimensional geometry of said-the object; and

(iii) a turntable sensor coupled to ~~said-the~~ base, ~~said-the~~ turntable sensor configured to measure measuring-a rotation of said-the turntable about said-the axis, wherein-said turntable sensor being configured to output outputs-turntable data indicative associated with the of said-rotation to said-host-computer-systemthe processor, said-the turntable data usable in-a determination of said-the three-dimensional geometry being based on the turntable data.

73. (Currently amended) The ~~digitizing-system as-recited-in-of~~ claim 72, wherein ~~said-the~~ turntable data is operative used-to locate said-the object on said-the rotary table with respect to said-the apparatus after said-the turntable is rotated.

74. (Currently amended) The ~~digitizing-system as-recited-in-of~~ claim 73, wherein ~~said-the~~ apparatus is a probe apparatus ~~and includes-including~~ an interface microprocessor separate from ~~said-host-computer-system-the processor~~ and coupled to ~~said-the~~ probe apparatus, ~~said-the~~ turntable sensor, and ~~said-host-computer-systemthe processor~~, ~~said-the~~ interface microprocessor being adapted-configured to receive said-the information and said-the turntable data and to provide-send the said-information and said-the turntable data to said-host-computer-systemthe processor.

75. (Currently amended) The ~~digitizing-system as-recited-in-claim-of~~ 73, wherein ~~said-the~~ apparatus is a probe apparatus ~~and wherein-a probe-of said-probe-apparatus-is-used~~ configured to trace a surface of said-the object to generate probe data, -to allow said-the at least one sensor configured to detect-said-generate data information describing said-associated with the three-dimensional geometry of said-the object based on the probe data.

76. (Currently amended) The ~~digitizing-system as-recited-in-of~~ claim 75, wherein ~~said-the~~ probe is a stylus having a tip configured to contact the for-contacting said-object.

77. (Currently amended) The ~~digitizing~~-system as ~~recited in~~ of claim 75, wherein ~~said the~~ probe apparatus includes:

- a first joint member ~~coupled to said~~ probe;
- a first linkage rotatably coupled to ~~said the~~ first joint member;
- a second joint member rigidly coupled to ~~said the~~ first linkage;
- a second linkage rigidly coupled to ~~said the~~ second joint member; and
- a third joint member rigidly coupled to ~~said the~~ second linkage and to a probe base.

78. (Currently amended) The ~~digitizing~~-system as ~~recited in~~ of claim 75, wherein ~~said the~~ turntable includes a receptacle ~~positioned near~~ disposed adjacent a periphery of ~~said the~~ turntable, the receptacle being configured to receive for receiving ~~said the~~ probe in an initialization procedure ~~for locating said~~ associated with calibrating a position of the turntable relative to ~~said the~~ probe apparatus.